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09/596,407

06/19/2000

Mark O. Vogel

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10/07/2004

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EXAMINER

MANNING, JOHN

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/596,407

Applicant(s)

VOGEL, MARK O.

Examiner

John Manning

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,8-9 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 2-7,10 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/25/03, 3/24/03</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8-9 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Unger (US Pat No 6,230,326) in view of the Data-Over-Cable Service Interface Specification (SP-RFI-I05-991105).

In regard to claim 1, the claimed step of "storing in the cable modem a first identifier for the cable modem" is inherent to the reference. In order for a cable modem to properly function, the cable mode must be uniquely identified by the source MAC address. The claimed step of "reinitializing the cable modem on the cable television network" is met by Figure 7. The discloses that in "certain embodiments, it may be necessary to perform a second initial maintenance..." (Col 6, Lines 14-15). A second initial maintenance constitutes a reinitialization of the coble modem. The claimed steps of "determining, at the cable maintenance opportunity comprises an initial maintenance opportunity having a unicast associated identifier", "determining whether the initial maintenance opportunity having the unicast associated identifier is available for use by the cable modem" and "when the initial maintenance opportunity having the unicast associated identifier is available for use by the cable modem, using the initial maintenance opportunity having the unicast associated identifier for non-contention

ranging by the cable modem” is met by Figure 7. “In certain embodiments, it may be necessary to perform a second initial maintenance when switching to a different channel dependent at least in part in the variance of signal levels from channel to channel. In such an embodiment, it may be desirable to develop a mechanism to unicast or multicast ranging opportunities on the data channels in order to avoid re-imposing the constraints discussed above” (Col 6, Lines 14-20). The Unger reference fails to explicitly disclose the claimed step of “determining that a timeout value for the cable modem has been exceeded”. The DOCSIS teaches determining that a timeout value for the cable modem has been exceeded so as to initiate a necessary corrective action (Page 105, Figure 7-7. Initial Ranging – CM). Consequently, it would have been obvious to one of ordinary skill in the art to modify Unger to determine if a timeout value for the cable modem has been exceeded so as to initiate a necessary corrective action. Furthermore, it would have been obvious to one of ordinary skill in the art to modify Unger with any of the teachings from the DOCSIS so as to ensure compatibility.

In regard to claim 8, the DOCSIS discloses a bandwidth allocation map containing a plurality of initial maintenance opportunities (Page 83, Figure 6-31, Section 6.4)

In regard to claim 9, the DOCSIS discloses that the plurality of initial maintenance opportunity comprises a plurality of bandwidth allocation map information elements (Page 84-86Section 6.4.1).

In regard to claim 12, the DOCSIS discloses that the first identifier is a service identifier (Page 71-72, Section 6.3.2.4).

In regard to claim 13, the DOCSIS discloses that the first identifier is transmitted from the cable modem termination system to the cable modem during registration of the cable modem with the cable modem termination system (Page 112, Section 7.2.10).

In regard to claim 14, the reference fails to explicitly disclose "computer readable medium having stored therein a set of routines". However, it is submitted that it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the combined teaching with "computer readable medium having stored therein a set of routines" so as to reduce the cost and size of the system.

In regard to claim 15, the claimed step of "transmitting a range request message from the cable modem to the cable modem termination system using a set of transmission parameters in use by the cable modem prior to failure of the communications channel" is met by is met by Figure 7. "Once the initial ranging, provisioning and registration of the CM is accomplished, the CM may be switched to a channel for normal data communication operation. In certain embodiments, it may be necessary to perform a second initial maintenance when switching to a different channel dependent at least in part in the variance of signal levels from channel to channel" (Col 6, Lines 11-21). Clearly, the initial ranging is completed prior to the switching of the communication channel.

Allowable Subject Matter

3. Claims 2-7 and 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or fairly suggest determining by the cable modem if the initial maintenance opportunities contains a unicast identifier and if the first of the plurality of second identifiers is not unicast, the cable modem uses the first of the plurality of initial maintenance opportunities for standard contention ranging. The Unger reference discloses the use of a unicast identifier in an initial maintenance opportunity. The reference fails to disclose the concept of using standard contention ranging if the initial maintenance opportunity does not contain a unicast identifier.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows:

- The Quigley et al. reference (US Pat Pub No 2001/0055319) discloses robust techniques for optimal upstream communication between cable modem subscribers and a headend.
- The Roeck reference (US Pat No 6,742,186) discloses a method and apparatus for enhancing periodic ranging for cable modems.
- The Chen et al. reference (US Pat No 6,588,016) discloses method and apparatus for locating a faulty component in a cable television system having cable modems.
- The Khaunte reference (US Pat No 6,546,017) discloses a technique for supporting tiers of traffic priority levels in a packet-switched network.

- The Ramakrishnan et al. (US Pat No 6,114,968) discloses hybrid contention/polling access method.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Manning whose telephone number is 703-305-0345. The examiner can normally be reached on M-F: 8:00 - 5:30.

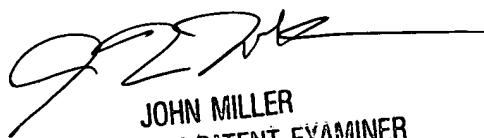
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W Miller can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM
September 30, 2004

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Art Unit: 2614

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JOHN MILLER
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TECHNOLOGY CENTER 2600